



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,530	05/31/2001	Chia-Hsing Chen	148693.00367	1349

7590 10/17/2003
POWELL, GOLDSTEIN, FRAZER & MURPHY LLP
P.O. BOX 97223
WASHINGTON, DC 20090-7223

EXAMINER

ROCCHEGIANI, RENZO

ART UNIT PAPER NUMBER

2825

DATE MAILED: 10/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/870,530

Applicant(s)

CHEN, CHIA-HSING

Examiner

Renzo N. Rocchegiani

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6,8-10 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6,8-10 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- ☐ Interview Summary (PTO-413) Paper No(s) _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6, 8-10, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,538,270 B1 (Randolph et al.) in view of U.S. Patent No. 5,976,937 (Rodder et al.).

Randolph et al. disclose a process to form a nitride ROM (col. 1, lines 10-15) comprising the steps of depositing an ONO stack structure (item 202) over a p-type substrate (item 200 and col. 8, lines 12-13), forming a plurality of photoresist layers (item 212) over the ONO stack, using the photoresist layers to form pocket implant region (items 218 and 220) using a p-type dopant species (col. 3, lines 30-33) and using the same photoresist layers as an etch mask for the ONO stacks (Fig. 4 and col. 3, lines 36-40). Further, the process comprises implanting N-type regions to serve as source and drain regions (item 224), wherein the p-type pocket regions are adjacent to the n-type regions (Fig. 4). The photoresist layers are removed after the process is completed.(Fig. 5).

Randolph et al. do not specify that the p-type dopant used to form the pocket region may include indium. Instead Randolph et al. disclose the use of boron as the p-type dopant. (col. 3, lines 30-33).

Art Unit: 2825

Rodder et al. teach the manufacturing of a semiconductor device wherein doping steps to form p-type regions are performed and wherein it is taught that boron and indium are interchangeable in the formation of p-type doped regions. (col. 5, lines 56-60).

It would have been obvious to one with ordinary skill in the specific art to combine the teachings of Rodder et al. with the invention disclosed by Randolph et al. since Rodder et al. teach that indium is a known substitute for boron in the formation of p-type doped regions and since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Response to Arguments

3. Applicant's arguments with respect to claims 6, 8-10, and 16-20 have been considered but are moot in view of the new ground(s) of rejection. Based on the newly discovered art the examiner has decided to present the above rejection.

Conclusion

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renzo Rocchegiani whose telephone number is (703) 308-5839. The examiner can normally be reached on Monday through Friday from 8:30 am to 4:30 pm.

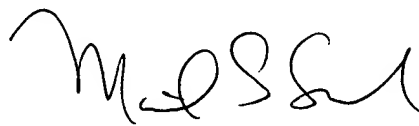
If attempts to reach the examiner by telephone are unsuccessful, the

Art Unit: 2825

examiner's supervisor, Matthew Smith, can be reached at (703) 308-1323. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

RNR

October 3, 2003

A handwritten signature in black ink, appearing to read 'M. Smith', is positioned above the printed name and title.

MATTHEW SMITH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800